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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,829	04/27/2001	William E. Morgan	174-945	8476

23517 7590 11/04/2002

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EXAMINER
DUONG, THANH P

ART UNIT	PAPER NUMBER
3711	

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/842,829	MORGAN ET AL.	
	Examiner	Art Unit	
	Tom P Duong	3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4, 6-8, 10-15, 19-23, 26-30, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama (5,713,801) in view of Umezawa et al. (5,993,968) or Morgan et al. (6,030,296). Regarding claims 1, 2, 11-12, 22-23, 27-28, and 30, Aoyama discloses a golf ball (Fig. 2) having three or more concentrically disposed layers comprises: a core (115); hoop-stress layer (Fig. 2) having a tensile elastic modulus of at least 10,000 kpsi wound or wrapped about the core; an outermost thermoset material (110) disposed about the hoop stress layer having a thickness of greater than about 0.065 inches, and 0.08 inches (Col. 3, lines 18-20) and a dimpled outer surface (110). Aoyama discloses the core is made of polybutadiene (Col. 3, line 35) and it is inherent and art-recognized that a polybutadiene material is a resilient elastomeric material. Umezawa et al. discloses prior art has a resin film layer form around the wound layer to protect the rubber thread layer from the heat of the cover resulting from injection molding. Umezawa also teaches a urethane dispersion or resin can be impregnated on the surface of the rubber thread layer (Col. 3, lines 9-12) to

prevent the rubber thread from unraveling and such impregnation allows higher moment of inertia, improve feel and flight performance. (Col. 3, lines 22-30). Alternately, Morgan also teaches that dipping a wound core in a latex bath to prevent the wound layer from unwrap prior to molding the cover and to control the thickness of the cover. (Col. 2, lines 49-54 and Figures 5-6). With respect to its radial thickness, Aoyama does not disclose the golf ball having the second cross-sectional area is at least about 5 percent larger than the first cross-sectional area but Morgan teaches that the thickness of wound layer with latex coating (106) may vary depending on the desirable ball properties such as compression and coefficient of restitution. (Col. 5, lines 50-58). Thus, it would have been obvious in view of Umezawa or Morgan to one having ordinary skill in the art at the time of the invention was made to incorporate a binding material of Umezawa or Morgan to Aoyama golf ball in order to control the thickness of the inner cover and prevent the wound layer from unwrap. Regarding claims 3-4, Aoyama further discloses a golf ball wherein the core (115): comprises polybutadiene (Col. 3, line 35); wherein at least one hoop-stress material comprises a wire, thread, or filament (Col. 3, lines 8-10); wherein the at least one hoop-stress material comprises a continuous strand of diameter ranging from about 0.004 to 0.04 inches (Col. 1, lines 49-51). Regarding claim 6, Aoyama discloses golf ball having at least one hoop-stress material is wound or wrapped but does not define in a criss-cross, basket weave, or open pattern about the core. Official Notice is taken that there are known two techniques, a random winding or basket winding technique and a great circle winding technique, which are known and conventional techniques. These techniques have a criss-cross, basket weave, or open

pattern and Aoyama's hoop stress layer appears to have such pattern. (See USPN 4,938,471). Regarding claim 7, it appears that Aoyama discloses the golf ball having the at least one hoop-stress material comprises a plurality of braided elements. Regarding claims 8 and 20, Aoyama discloses the golf ball having at least one hoop-stress material which has a tensile elastic modulus of at least about 20,000 kpsi (Col. 3, lines 29-31). With respect to claim 10, Official Notice is taken that it is known in art that polyurethane cover provides softer feel than ionomer cover and also provides better cut resistance over balata cover, and it is obvious to utilize such urethane cover in the claimed invention to improve better feel and cut resistance (See USPN 5,334,673). Regarding claims 11- 13, Aoyama discloses the golf ball having at least one layer of an outermost thermoset material with thickness range of the claimed invention (Col. 3, lines 15-19). Regarding claims 14, 15, and 33, Aoyama discloses expressly the cover or outermost thermoset material is preferably ionomer or balata, but does not disclose the golf ball having at least one layer of an outermost thermoset material which has a hardness of about 10 to 90 Shore D and abrasion resistant material. Both Aoyama and Applicant's invention disclose the cover or outermost thermoset material has similar composition; thus, the cover of Aoyama inherently has similar range of hardness as claimed by the Applicant's invention. Claim 19 recites limitation similar to claim 1; thus, claim 19 is rejected for the same reasons as applied in claim 1, above. Regarding claim 20, Aoyama discloses the golf ball having at least one wound material which has a tensile elastic modulus of at least 20,000 kpsi (Col. 3, lines 29-31). Regarding claim 21, Aoyama discloses at least one wound material is a continuous strand of diameter

ranging from about 0.004 to 0.04 inches (Col. 1, lines 49-51). With respect claims 26 and 29, it is inherent that the binding material provides surface treatment to the wound surface layer prior to injection molding the cover and photo-activation such as gamma radiation and laser beam is well-known in the art to aid in curing polymer surface such as golf ball's core and/or its cover.

2. Claims 9, 16-18, 24-25, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior arts as applied in claim 1, above and further in view of Boehm et al. (5,919,100). With respect to claims 9, 16-18, 24, and 32, the prior art does not disclose at least one layer of an outermost thermoset material; however, Boehm teaches that the second layer (22) equivalent to the outermost thermoset layer comprised of a high or low specific gravity polybutadiene to control the spin rate of the golf ball (Col. 8, lines 40-45 and Col. 8, lines 41-47). Thus, it would have been obvious in view of the prior art to one having ordinary skill that it is desirable to incorporate a layer or multiple thermoset layer(s) as taught by Boehm to control the spin rate of the ball. Claim 25 recites limitations similar to claims 9 and 1; thus claim 25 is rejected for the same reasons as applied in claims 9 and 1, above.

3. Claims 5 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied in claim 1 above, and in further view of Maehara et al. (5,913,736). Aoyama discloses all the elements except shape memory alloys. Maehara et al. teaches that the shape memory alloy layer provides an effect of tightening the core, thus improving the golf ball's resiliency, resulting an increased travel distance. Maehara discloses a high specific gravity alloy and it is inherent that such

alloy has properties of the claimed invention. Thus, it would have been obvious in one having ordinary skill in the art at the time of the invention was made to incorporate the shape memory alloy of Maehara to Aoyama's golf ball to achieve the benefit as taught by Maehara.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (703) 305-4559. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Sewell can be reached on (703) 308-2126. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 308-7768 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4148.

Tom Duong
October 31, 2002

Paul T. Sewell
Supervisory Patent Examiner
Group 3700